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Poverty and Income Distribution during Adjustment

Issues and Evidence from the OECD Project

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and
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Adjustment programs will fail when they do not recognize the interdependence of the three criteria of efficiency, welfare, and political feasibility. These programs must be tailored to both the political and economic environments of each country.

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Drawing lessons from country studies, Bourguignon, de Melo, and Morrisson examine the effects of adjustment policies on the distribution of income in Chile, Côte d'Ivoire, Ecuador, Indonesia, Malaysia, and Morocco. After analyzing the issues that must be confronted in designing adjustment programs with a focus on poverty, they synthesize the main conclusions of the different country studies.

With simulation exercises they explore the effects of the design of the adjustment packages on poverty and on the sustainability of the measures undertaken in these countries. These exercises show considerable diversity in the evolution of income distribution during adjustment. They also expose the fatal flaws of narrowly designed adjustment programs.

Adjustment programs — whether focused on efficiency or on welfare — will fail when they do not recognize the interdependence of the three criteria of efficiency, welfare, and political feasibility. Adjustment programs must be carefully packaged to fit country circumstances, taking into account both the political and economic environments.

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1. INTRODUCTION

It is widely accepted that investment in human capital and social services, when accompanied by growth, remain the primary means to reduce poverty and improve the quality of life. However, during the turbulent 1980s when the majority of developing countries faced severe macroeconomic crises, growth slowed markedly, to the point where many countries no longer registered positive per capita growth. In this environment, living standards often fell sharply, particularly among the poor. Early on, while most of international institutions were still focusing on how the developing world was going to reestablish macroeconomic balance and service its external debt, the OECD Development Centre launched a study of the effects of adjustment on income distribution and poverty.

When the OECD project was launched, little was known about how adjustment programs affected income distribution. To begin with, no economic crisis like this one had occurred before. For the first time, policies to alleviate poverty had to take into account the need to stabilize the economy and to promote restructuring to restore (or establish) long-run growth through improved resource allocation. Second, the tools needed to analyze the joint effects of stabilization and microeconomic structural adjustment policies were not yet developed.[1]

Because the macroeconomic crises had pervasive effects, analyzing them required an economywide approach that went beyond the descriptive approach used, by Cornia, Jolly, and Stewart (1987) among others, in their UNICEF study.[2] Most adjustment programs, whether they were supported by the IMF and the World Bank or not, emphasized the simultaneous application of stabilization and structural adjustment measures. Stabilization policies emphasized demand management, while structural adjustment programs emphasized microeconomic reforms designed to have supply-augmenting effects. Despite this difference, however, stabilization and structural adjustment measures are not always easy to separate; exchange rate policies, for example, are a fundamental element of both IMF-supported stabilization packages and Bank-supported structural

adjustment packages. Considering not only these analytical issues but also the difficulty of obtaining reliable information on poverty and income distribution -- especially before and after adjustment -- (and the emotionally charged nature of the topic of income distribution), it is understandable that we were poorly informed about the likely distributional effects of adjustment.

The OECD project was designed to remedy this situation. A two-pronged approach was used that combined country studies and simulation analysis. For the country studies, countries were selected to provide wide geographical coverage and variation in initial conditions, to give a relatively detailed picture of the variety of adjustment experiences. Authors were asked to draw on all available information on distributional shifts and poverty indicators during adjustment in their interpretations of events. Country authors were also encouraged to rely on simulation methods and counterfactual analysis to compensate for the general lack of information on distributional indicators during adjustment and to provide a more informed and dispassionate assessment of each country's adjustment experience. These methods could also be used to isolate the effects of various policies.

This symposium brings together a selection of the country studies commissioned by the project. In this introduction to the symposium, we first discuss the channels through which the stabilization/structural adjustment programs are likely to have affected the distribution of income. This analytical discussion is essential for understanding how adjustment is likely to get translated into distributional shifts across households and how the linkages between stabilization and structural adjustment policies were modeled in the simulation analyses. We then discuss the six country studies presented in the volume,[3] recalling in section 3 the initial conditions and diversity of disequilibria facing each country. In section 4, we synthesize the main conclusions from the interpretative description in the country studies. Then in section 5, we turn to the lessons from the simulation exercises used extensively in all but one country study (Chile) to evaluate the effects of the selected

adjustment packages on poverty and income distribution and to examine whether alternative policies would have been preferable. Conclusions follow in section 6.

2. ISSUES IN THE DESIGN OF ADJUSTMENT PROGRAMS WITH A POVERTY FOCUS

This section introduces the issues that had to be confronted in the design of adjustment packages with demand management and supply-side components. Emphasis is on the tradeoffs faced and on the role of rigidities in increasing distributional shifts and making adjustment both more difficult and less sustainable, because of resistance to cuts in living standards. We start with a discussion of the tradeoffs between equity and efficiency, at one point in time and then intertemporally, and close with a discussion on the selection of poverty alleviation methods. This discussion also identifies the information that would be needed to comprehensively evaluate the long-run distributional effects of adjustment packages. Even though not enough time has elapsed to evaluate the long-run effects of adjustment packages on income distribution, the emphasis on growth is warranted because these programs emphasize supply-side effects. Only by focusing on long-run growth are we able to see the eventual tradeoffs faced by the growth-oriented packages of the 1980s. Next, we consider the short-run adjustment to the external shocks that were at the origin of the crisis, concentrating on the role of initial conditions, rigidities, and tastes in determining the impact of adjustment on the factoral distribution of income. In many ways, short-run tradeoffs dominated the measures adopted, and much of the discussion in the remainder of the paper will deal with identification and analysis of these tradeoffs, since these are the only ones that can be identified at this stage.

(a) Growth and distribution in the long-run: tradeoffs between efficiency and equity[4]

As we argue in more detail below (in section 2b), the difficulty faced by the majority of developing countries during the 1980s was how to adjust to a particularly strong external shock that combined a deterioration in the terms of trade with an increase in interest rates on foreign debt and for many countries, the foreclosing of access to foreign funds. For economies on a normal growth path with resources at or close to full employment, adjustment required a shift in resources toward the tradables sector. For economies with idle capacity, adjustment required, in addition, structural reforms with supply-augmenting effects. An efficient resource transfer towards tradables would result in a net foreign exchange savings and would allow for interest payments on the foreign debt, which could no longer be rolled over because of insufficient foreign financing.

To induce a shift in resources toward the tradables sector, the relative price of tradables had to rise. Also, absorption had to be reduced relative to income. In the absence of access to foreign borrowing abroad, the easiest way to speed up adjustment is to increase the rate of investment by increasing the rate of domestic saving. But since the overall level of expenditures also had to be reduced, such a strategy would have resulted in a drastic cut in consumption expenditures, which would already have fallen because of income loss resulting from the external shock. Poverty would certainly increase. These efforts to achieve efficient output levels are likely to conflict sharply with efforts to alleviate poverty during the adjustment period.[5] We now illustrate the dilemmas faced under those circumstances.

As the discussion of the country studies will show, the relative importance attached to equity and efficiency in the policymakers' intertemporal social objectives varied: concern for equity (increasing the consumption of the poorest) weighed more heavily in, say, Malaysia and Indonesia than in Côte d'Ivoire and Morocco which emphasized increasing efficiency (growth in per capita

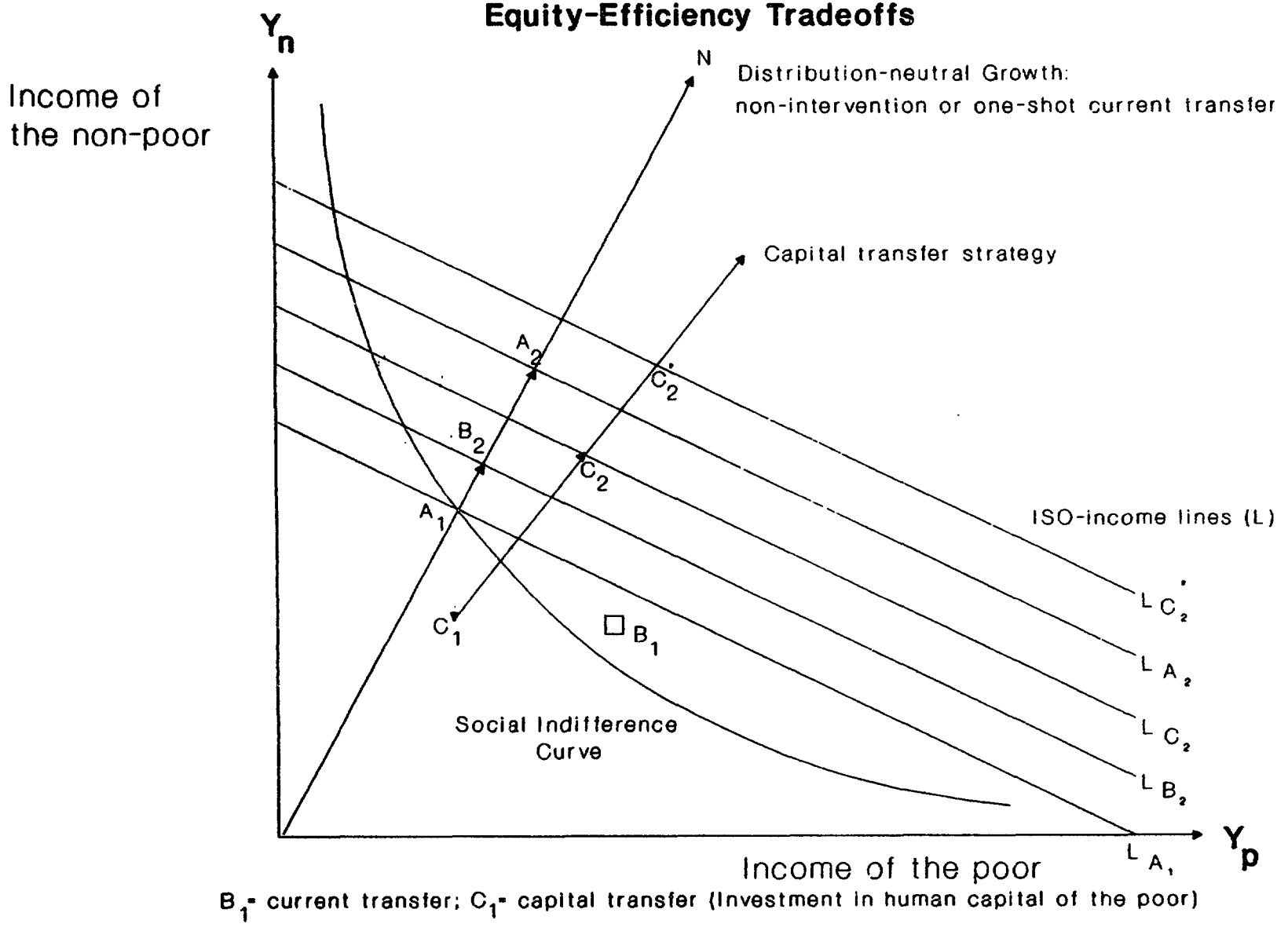
consumption) by reducing macroeconomic disequilibria. It is therefore useful to begin our discussion of the tradeoffs faced during adjustment. Redistribute now or later? If now, at what distortionary cost and through what means -- by transfers or by investment in the poor?

Consider the simple analytic representation in figure 1 of the three tradeoffs mentioned above. The economy is assumed to consist of two classes of agents: the poor with income y_p and the non-poor with income y_n. Assume that population shares (n_p, n_n) are constant, so that different levels of aggregate income are represented by the family of iso-income lines with constant slope n_p/n_n. Now suppose that if no policy decision is taken, adjustment will be distribution-neutral (i.e., the economy will move along the ray O_N. (Later we will deal in more detail with the mechanisms through which adjustment itself affects the factoral distribution of income.) The economy is initially at A_1. The social indifference through A_1 reflects the policymakers' evaluation of equity. Consider now a policy aimed at reducing poverty through a transfer of current income to the poor. The static tradeoff between poverty reduction and efficiency is represented by the move from A_1 to B_1. At B_1, the income of the poor has risen, but the mean income of the population is lower since the economy is now on a lower iso-income line. The difference between the slope of the segment A_1 B_1 and that of the lines L represents the contemporaneous marginal efficiency cost of reducing poverty, that is both the leakage due to imperfect targeting and the distortionary cost of transfers. So long as B_1 lies on a higher social indifference curve than A_1 as in figure 1, current transfers to the poor are preferred to noninterv.tion.

It is already clear that evaluating whether adjustment policies should be accompanied by an activist redistributive policy is going to be difficult. For example, in economies like Malaysia, where equity is assigned a relatively high weight because of concerns about racial imbalances, the social indifference curve through A_1 is likely to be steep and so redistributive policies are likely to be undertaken. By contrast, in economies with relatively weak administrative and fiscal systems, the

Figure 1

Equity-Efficiency Tradeoffs



B_1- current transfer; C_1- capital transfer (Investment in human capital of the poor)

segment $A_1 B_1$ is likely to be steep, and redistributive policies will not be undertaken because of the need to rely on highly distortionary tax policies to effect the current transfer.[6]

Consider now the intertemporal tradeoff. The no-intervention path leads to A_2, while B_2 represents the outcome of having redistributed current income during period 1. Here it is assumed that the redistribution of current income leaves the primary distribution of income in future periods unaffected. As depicted here, the dynamic cost of current transfers is quite large as B_2 is well below A_2.[7] (Because capital transfers involve investments with a long gestation lag, they were generally not among the strategies considered during the 1980s, when the key issue was to determine whether protecting the current income of the poor was feasible in light of the overriding concern with maintaining -- or establishing -- efficiency during the crisis.[8]) The main objective of the OECD project was to determine to what extent the process of adjustment, which in itself included non-neutral policies, affected the distribution of income. In terms of figure 1, the issue is how much did A_2 deviate from ON, that is, how much did strategies that included a transfer redistribution component (B_2) deviate from ON and what was the cost of redistributive policies (how much below LA_2 is LB_2).

In applying the framework in figure 1 to individual countries, initial conditions are important. For example, as the discussion below indicates, Indonesian and Malaysian authorities placed a relatively high weight on equity issues in their policy choices. In terms of figure 1, this implies that the intertemporal base run scenarios in the modeling exercises would be less steep than the distribution-neutral path A_1N in figure 1. Also, to take a specific example, in the Indonesian case, different combinations of government current and capital expenditures yield significantly different short- and long-run effects on growth and income distribution.

(b) Adjustment and distribution in the short-run: initial conditions, structure, and rigidities

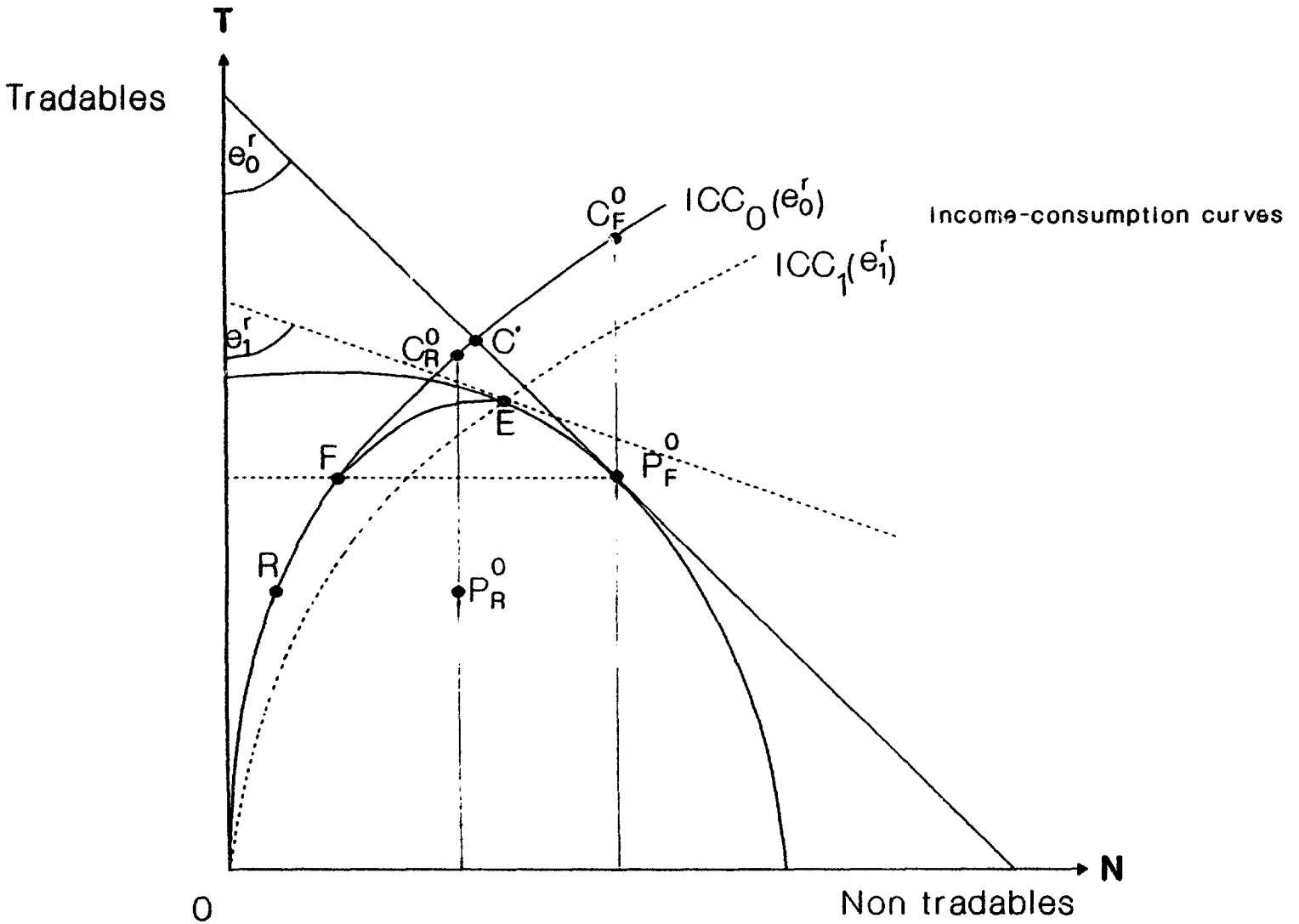
Since adjustment meant that developing countries had to transfer more resources abroad to service their debt, a loss of purchasing power in terms of tradables was inevitable and an increase in poverty was possible. Terms of trade losses also imply a loss in purchasing power of income in terms of tradables for the economy as a whole. Therefore, to observe that some measure of the aggregate economywide real wage fell during adjustment should be no surprise. This is not to say, however, that all incomes were affected proportionately by adjustment. Indeed, certain distributional shifts are to be expected during adjusument.

To illustrate the tradeoffs between equity and efficiency, it was convenient to assume that primary incomes were unaffected by current transfers and, by implication, that adjustment policies did not affect the distribution of income. While such a simplification is useful for discussing poverty-reduction strategies in economies in long-run equilibrium, it is certainly not appropriate for studying how income distribution was affected in the short run by the adjustment policies that were designed to cope with the macroeconomic crises of the 1980s.[9]

Figure 2 illustrates the interaction between stabilization and structural adjustment policies for two identical economies (same tastes, endowments, and technology) but with different initial conditions. The economies, labelled F for flexible and R for rigid, are decomposed into a tradables sector T and a nontradables sector N. Economy F is at a full-employment efficient (undistorted) production equilibrium P_F^o while economy R is inside its production possibility frontier at P_R^o because of distortions and unemployed resources. Both economies receive a net transfer (or renewable capital inflow) from abroad and are therefore able to consume at C_F^o and C_R^o, which are beyond their earned income by the amount of the (identical) transfer.[10] Consider now an external shock resulting in a

Figure 2

Expenditure switching, expenditure reduction, and structural adjusment



higher interest payment on the foreign debt such that both economies can no longer consume beyond their production possibility frontier.

Consider first economy F. If the relative price of nontradables remained unchanged, consumers would wish to consume at C' which is on the same income-consumption curve corresponding to the initial relative price of tradables p_o. However, at this set of relative prices, there is excess supply of nontradables (or demand for tradables). If relative prices are flexible, the economy will adjust and move to E. With full price flexibility, there is only a primary cost of adjustment which involves bringing real expenditures in line with real income. However, if there is some relative price rigidity in the system and the real exchange rate cannot adjust, then there will be a secondary adjustment cost. The line EF traces the locus of intersection points between income budget lines and income-consumption curves (not drawn), each corresponding to a different value of the real exchange rate. Thus, depending on the extent of relative price rigidity, the economy will adjust somewhere along EF. In the extreme case of no relative price flexibility (as would occur, for example, in a fully indexed economy where a devaluation of the exchange rate would be shortly followed by a proportional increase in prices and wages), the economy would end up at F, where the external constraint is met.[11]

Consider now economy R, with initially unemployed resources. If economy R can pursue structural adjustment policies at the same time as it brings expenditures in line with income, then it can achieve the same equilibrium E, since by assumption both economies are identical in endowments and tastes. For economy R, however, because of reforms that improve the allocation of resources, the cost of adjustment is less than in F and, in the extreme case, adjustment might even be welfare increasing. Of course, in the more likely event of price rigidity, economy R will end up further inside its production-possibility frontier. In the case of no relative price flexibility, the economy will end up at point R and will therefore, also experience a secondary cost of adjustment.

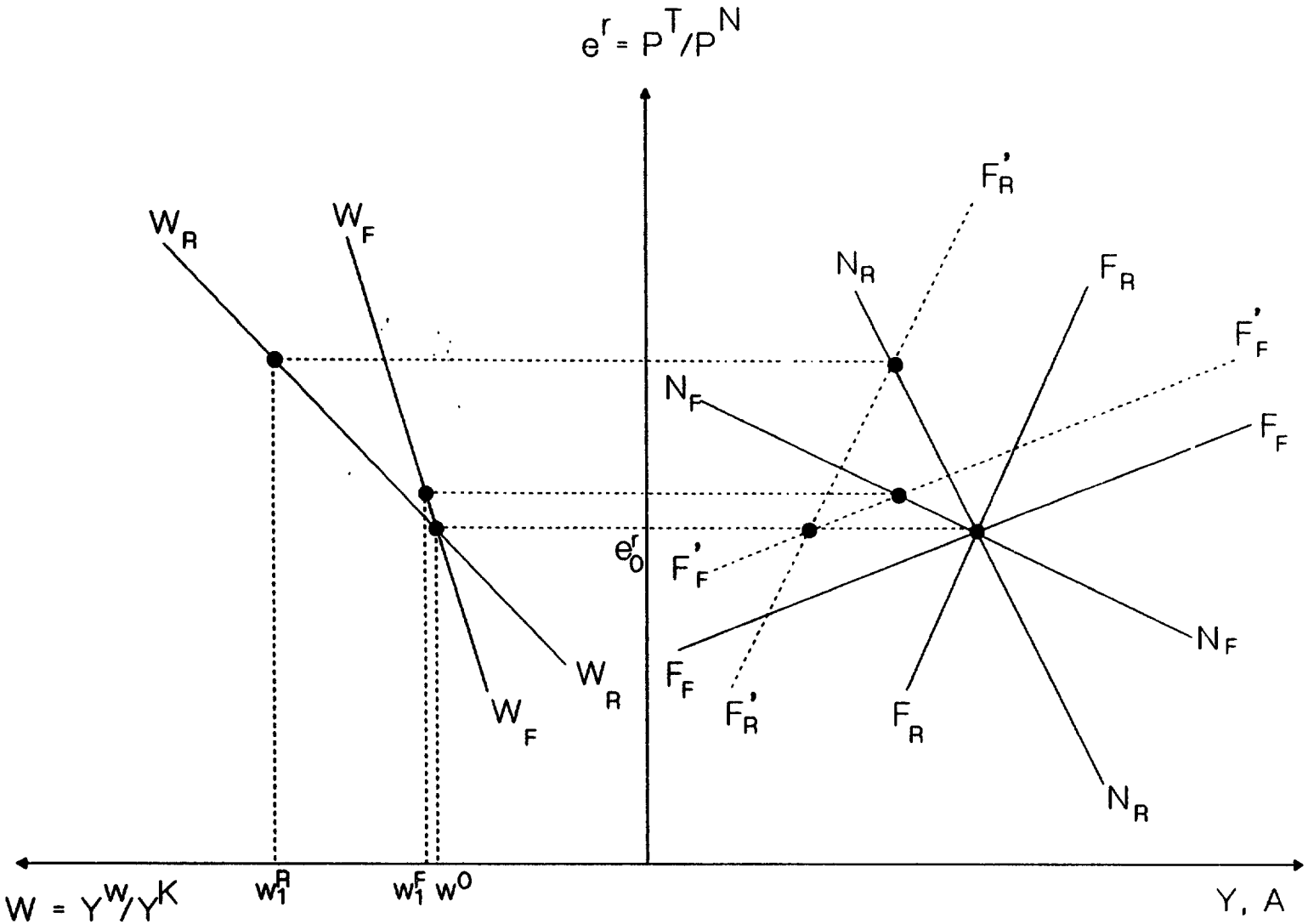
It is clear from this discussion, and from Meller's case study of Chile (presented in this issue), that adjustment is likely to have involved secondary adjustment costs beyond the income loss and poverty increase resulting from the need to service a higher external debt. It is precisely in this context that there is a role for government policy to attempt to minimize the secondary costs of adjustment by undertaking appropriate structural adjustment policies to minimize the social costs of adjustment by appropriate complementary measures.

We have not yet discussed how shifting resources from nontradables to tradables is likely to affect the distribution of income. Suppose that the poor get all their income from the supply of labor services while the rich get all their income from the return to capital. For the time being, we shall assume that both groups have identical preferences. We assume further that tradables are labor intensive and that capital is sector specific in the short run. Then, we know that the real incomes of the owners of the tradable-sector capital stock will improve, that of the owners of the capital stock in the nontradable sector will decline in absolute terms, and that owners of labor services will fall in between.[12] In the long-run, we know from the Stolper-Samuelson theorem that, under the usual competitive assumptions, an adjustment that involves an increase in the relative price of tradables will shift the distribution of income in favor of labor because of the rise in the wage-rental ratio that accompanies the resource shift toward tradables.

But the extent of the income redistribution depends on the economy's structure. Figure 3 contrasts the same two economies that have to adjust to a reduction of capital inflows (which is equivalent to an increase in transfers abroad). Consider again the long-run case, where all factors are mobile across sectors. In the right-hand panel, the curves labelled NN show the locus of points where there is internal balance, that is equilibrium in the nontradable goods market. Starting from a position of equilibrium, where income Y is equal to absorption A (both shown on the horizontal axis), an increase in expenditures will require an increase in the relative price of nontradable goods – a fall

Figure 3

Adjustment and the Factoral Distribution of Income



in the value of the real exchange rate -- to eliminate excess demand for nontradable goods. Similarly, the FF schedules show the equilibrium in the tradable goods market. Again, starting from an equilibrium position, an increase in absorption will create excess demand for tradable goods which will be eliminated by an increase in the relative price of tradable goods. The left-hand panel depicts the relationship between the wage-rental ratio and the relative price of tradable goods under the assumption that tradables are labor intensive.[13] A move away from the origin implies a redistribution of income toward labor.[14]

Return now to the comparison of the two economies. Both have to adjust to the same reduction in capital inflows (i.e. the same leftward shift in the FF curve measured at the initial real exchange rate). Economy F is flexible compared to economy R; small shifts in relative prices will lead consumption patterns to shift between tradables and nontradables. Likewise, small relative price shifts will elicit a supply response because the technology is flexible. By contrast, economy R is rigid. All imports are essential intermediates and capital goods that cannot be produced domestically, so there is little scope for substitution in consumption toward domestically produced goods even with large relative price shifts. Likewise there are rigidities in the production structure that make it difficult to shift resources from nontradables to tradables.[15] Consequently, the NN and FF schedules for economy F are relatively flat while those for economy R are relatively steep. Also, the factor price frontier for the flexible economy is steeper than for the rigid economy since the cost structures are different.[16]

Consider now what happens to the distribution of income when both economies have to adjust to the same reduction in capital flows. In the flexible economy, the required real depreciation is small and the corresponding change in the distribution of income (W_o to W_1^F) is also small. Economy R, because of rigidities in consumption patterns and production structures, has to depreciate its real

exchange rate much more to achieve the same adjustment. This sharper real depreciation means, in turn, a larger shift in the distribution of the income (W_0 to W_1^R). So economic structure matters.

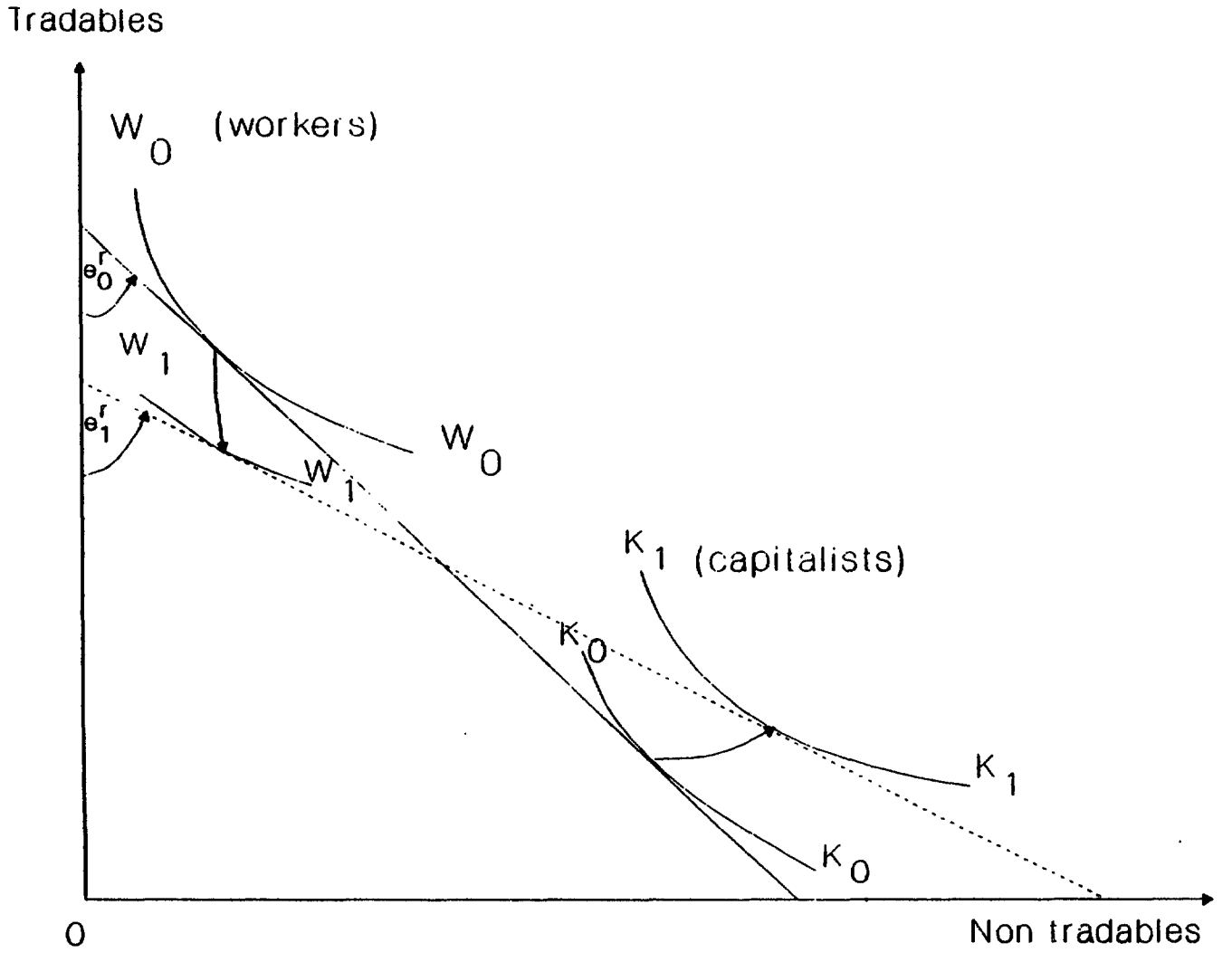
The same apparatus could also be adapted to show how another form of rigidity -- factor price inflexibility -- affects the short-run factoral distribution of income resulting from adjustment. It has often been observed that certain groups fiercely resist any adjustment that requires a cut in their living standards. For example, labor in the industrial sector of many Latin American economies is organized in powerful labor unions that resist any drop in real wages. Owners of capital also often resist any fall in profit margins. Where trade and industrial policies shield them sufficiently from competitive pressures abroad and at home, they rely on markup pricing, which allows them to pass any cost increases through to consumers.[17]

So far, we have assumed that both groups have identical tastes. Now suppose that we are looking at adjustment in a net food-importing country (like Morocco) and that workers have a strong preference for tradables. As figure 4 shows, adjustment that entails a depreciation of the real exchange rate from e_0^r to e_1^r will lower the real income of workers and raise that of capitalists. Real income shifts like this that are due to differences in tastes are likely to be quite important for some low-income groups, whose expenditures are mostly on essential goods like food. For example, adjustment in Chile had a significant redistributive effect because it changed the purchasing power of real incomes.[18]

We have seen that how adjustment policies affect the short-run factoral distribution of income from the supply side depends on the combination of initial conditions reflected in the state of disequilibrium in the economy, the extent of rigidity in production and demand structures, and the institutional characteristics of the economy reflected in the determination of wage rates and prices. We have also seen that differences in preferences across socioeconomic groups imply that changes in relative prices resulting from stabilization and structural reform policies will have a differential effect

Figure 4

Real Exchange Rate Depreciation, Tastes, and Income Distribution



on real incomes. For these reasons, an economywide model with a sufficient level of disaggregation across sectors, factors of production, and households was developed and applied in the country studies of the OECD project.

The simulation models, explained in greater detail in the companion paper by Bourguignon, de Melo, and Suwa (1991) in this symposium, are of the open-economy variety described graphically above. The models have several sectors, distinguished by their degree of tradability, and incorporate input-output linkages to better account for the net factoral intensity across sectors. Several types of labor with partial mobility across sectors and different wage-determination rules accommodate real wage rigidity and labor market segmentation. Factor incomes are mapped into households, which receive their incomes from several sources. Households have different expenditure patterns to account for the effects of adjustment on the purchasing power of real incomes. The models also include a government sector with current and capital expenditures and a financial sector that integrates portfolio choice by households and firms. These extensions of the basic framework presented here enable the models to trace the short-to-medium run effects of adjustment policies on income distribution across households.[19]

3. THE CASE STUDIES: A DIVERSITY OF INITIAL CONDITIONS AND SHOCKS

The country studies reveal a remarkable diversity in the patterns of adjustment. While all six countries had to retrench and adjust in the sense of bringing expenditure in line with income, two of them -- Indonesia and Malaysia -- continued to make progress on the distributional and poverty fronts, albeit at a slower pace than previously. And for two other countries in the group -- Côte d'Ivoire and Ecuador -- the verdict on adjustment was not yet in at the end of the period covered in the studies. Before presenting a comparative evaluation of the adjustment experience across this heterogeneous

group, we briefly describe the sample (see Table 1) in terms of the origins of the crisis, country-specific characteristics, main adjustment policies, and trends in poverty indicators during adjustment (which is discussed in detail below in section 4). Of course, the changes in the poverty and distributional indicators described in Table 1 are not necessarily attributable to the adjustment policies pursued. This will be alluded to in section 4 and dealt with in greater detail in section 5, which reports on the results of counterfactual simulations.

Although external shocks were by no means the only cause of the crisis, all countries fell into the dependent-economy framework used in section 2. In our sample, two economies, Ecuador and Indonesia, are primarily natural-resource-based economies, with oil exports accounting for well over two-thirds of foreign exchange revenues at the time of the crisis. And three economies -- Ecuador, Côte d'Ivoire, and to a lesser extent, Morocco -- can be characterized as having relatively rigid demand and supply structures.[20]

While falling terms of trade and rising interest rates were the main external causes of crisis in the countries in our sample, there were other interdependent causes as well, as the country studies show. Except in Chile and Indonesia, fiscal deficits exceeded 5 percent of GDP, in part because of the high interest payments on the external debt. Perhaps the leading proximate cause of the crisis was the optimistic outlook of all the countries in our sample following the short-lived boom in commodity prices in the second half of the seventies (phosphates for Morocco in 1974; coffee and cocoa for Côte d'Ivoire in 1976; rubber and tin for Malaysia in 1979; oil for Ecuador, Indonesia, and to a lesser extent, Malaysia in 1979; and a foreign capital inflow boom for Chile in 1980-81). [21]

At the same time as the commodity boom, the recycling of petrodollars in financial markets provided these countries with access to private sources of finance at negative real borrowing costs. Governments' spending rose, made easier by the fact that the main source of foreign exchange earnings was usually controlled by public sector companies or, as in the case of Côte d'Ivoire, by a

Table 1 Country studies: shocks, adjustment, and distributional indicators

Country\ Adjustment period	Year of crisis and origins	Particular characteristics	Main adjustment policies	Poverty indicator trends during adjustment
Cote d'Ivoire [P] (1980-86)	1980-83 • Unsustainable public investment program following short-lived coffee and cocoa boom (1975-77) • Drought (1983)	• Belongs to CFA franc zone (convertible currency and access to French treasury for external funds) • Cannot devalue and limited freedom in monetary policy	• Adjustment program in 1981 • Fiscal cuts: wages, subsidies; capital expenditures • Further adjustment programs in 1984-85 (with effects of devaluation mimicked by export subsidies plus tariff)	• Strong inequality (Gini of 0.52), segmented labor market, and regional inequality • Urban workers lost most; agricultural incomes stabilized • Rural urban income gap narrowed
Morocco [P] (1980-87)	1980-83 • Decline in terms of trade (phosphates) • Unsustainable public expenditures	• Good rainfalls during adjustment (1985-86) o Increase in remittances from abroad	• Failed attempts in 1978 and 1981 • Adjustment program in 1983 • Monetary and fiscal expenditure restraint • Tax reform (introduction of VAT) • Trade liberalization (QR and tariff reduction) • Financial sector liberalization • Devaluation	• Social spending cut • Decrease in urban/rural income gap • Poverty down in rural areas, up in urban areas
Chile [X] (1979-88)	1981-82 • Policy-induced real exchange rate appreciation contributing to debt crisis • Decline in terms of trade (copper)	• No fiscal deficit • Distortion-free economy • Copper price increase in 1987	• Devaluation (1982) • Temporary increase in protection (now 15% tariff) • Copper stabilization fund	• Poverty and urban phenomenon • Worsening income distribution • Successful targeting while social spending was falling • Reduction in infant mortality to one of lowest levels in Latin America
Malaysia [X] 1978-87)	1982-83 • OECD recession • Expansionary fiscal policy (public investment) • Deteriorating terms of trade (rubber, tin, oil)	• No recourse to IMF. • Redistribution-with-growth strategy during 1970s • Used access to foreign borrowing till 1984 • Persistent large fiscal deficit	• Expenditure switching starting in 1984 • Cut in fiscal expenditures	• Distributional shift toward Malays, which started under New Economic Plan of 1975 • Urban poverty up slightly, rural poverty down • During adjustment period (1984-87), yearly increases in expenditures in education (5.7%) and health (3.7%)
Ecuador [F] (1975-87)	1981-82 • Decline in terms of trade (oil) • Debt crisis • Further crisis in 1986 with oil price fall • Earthquake in 1987	• Import-substitution led growth in 1970s	• Adjustment starting in 1984: classical neo-liberal program • Large devaluation, removal of price controls, trade liberalization	• Income distribution worsened in agriculture but improved in urban sector (sharp fall in income of urban rich) • During 1980-87, income per capita fell by 30% for urban and rural poor; by 38% for urban educated class
Indonesia [F] (1979-88)	1982-83 • Decline in terms of trade (oil) • OECD recession	• No recourse to IMF • Balanced budget constitutionally required • Continued access to external funds	• Devaluation, with move to full convertibility o Interest rate liberalization • Trade reform (lowering of tariffs, removal of most QRs) • Tax reform (introduction of VAT and income tax) • Fiscal restraint (cut in capital expenditures)	• Poverty fell from 33% in 1984 to 20% in 1987 • Poverty fell in both urban and rural areas; within major employment groups, income distribution became more equal • Cut in social investments (schools, clinics) starting in 1986

Note: Figures in brackets following country names refer to country classification used in the comparisons reported in table 2: [X] Countries with a share of manufacturing exports in total exports ≥ 30% or a share of manufacturing in GDP ≥ 13%; [F] Countries with a share of fuel exports in total exports ≥ 50%; [P] Residual grouping.

commodity stabilization fund that reaped the windfall profits from high coffee and cocoa prices in world markets. Except in Indonesia and Malaysia, the large-scale public investment projects undertaken during this period were often found to have low rates of return once the crisis raised substantially the opportunity cost of funds borrowed on commercial terms. The projects also proved difficult to scale down.

Another common pattern in the countries in our sample was a large appreciation of the real exchange rate in the years immediately preceding the crisis. (This is, of course, predicted by the model presented in section 2.) In Chile and Malaysia, where this appreciation was particularly acute, the sense of euphoria was strong and led to a boom in private sector purchases of imported consumer durables. Other countries also experienced some appreciation of the real exchange rate, as a portion of the increased government expenditures fell on nontradables.

Despite these common patterns, however, the timing and severity of the crisis varied across the sample, and the need to adjust was determined by several different factors. For example, the need to adjust came later for the oil-exporting economies in our sample, as the price of oil tumbled in 1986. Chile benefitted from a sharp increase in the price of copper toward the end of its adjustment period. Another important factor during adjustment was the degree of access to foreign financing.

Adverse movements in the terms of trade were not the only factor behind the crisis for the two Latin American economies in our sample. For Ecuador, perhaps the most significant factor during the adjustment period was its loss of access to foreign borrowing just when it was needed most -- a decade of import-substitution-led growth had resulted in a relatively rigid economy. In Chile, faulty macroeconomic management was largely to blame for the crisis. The combination of a fixed exchange rate, wage indexation in the formal sector, and an open capital account (and a rate of inflation three times that of its major trading partners) led to capital inflows and a sharp loss of competitiveness on external markets. When the crisis came with the halt in private foreign capital

inflows, Chile, like Ecuador, had little access to foreign credit to smooth the adjustment. Unlike Ecuador, however, Chile was in fiscal surplus when the crisis began in the fall of 1982.

In the two Asian economies, the fall in the prices of oil and other primary commodities brought on the crisis. In both Indonesia and Malaysia, expenditures would eventually have to be brought in line with incomes, and Malaysia needed to prune a huge public sector deficit (over 20 percent of GDP). But both countries adjusted fairly early, and both continued to have access to private foreign credit and so did not require recourse to the IMF. These relatively favorable circumstances are at least partly accountable for the dramatically better performance of the two Asian economies on the distributional front during adjustment.

In Morocco, as the price of phosphates slumped in 1976, the government was unable to trim its investment expenditures, which had tripled during the phosphate boom that began in 1974, and stabilization attempts failed in 1978 and 1981. A halt to expansionist policies was finally brought about with the comprehensive adjustment program of 1983. Morocco, like Chile, Ecuador, and Côte d'Ivoire had a high external debt burden when adjustment started.

Turning next to the stabilization and structural adjustment packages, we find that the sample countries introduced similar measures to reduce aggregate demand: cuts in public expenditures and devaluation (accompanied by a more restrictive monetary policy). Structural adjustment involved deregulation of internal markets and foreign trade liberalization. The cuts in public expenditures fell disproportionately on capital expenditures because, as explained in the discussion of figure 1, current expenditures can provide immediate poverty relief whereas capital expenditures provide only future benefits. Adjustment through cuts in capital expenditures was also politically easier since construction workers have less political power than bureaucrats, who are likely to resist to a cut in their salaries. Not surprisingly, public capital expenditures fell drastically -- by over 50 percent in Côte d'Ivoire,

Ecuador, and Morocco. Indonesia and Malaysia, with less need to adjust, more flexible economies, and better access to foreign financing, only had to cut public capital expenditures by about 10 percent.

The other major cutback in public expenditures was in subsidies, often on commodities that were important consumption items for the poor. Chile, Morocco, and Côte d'Ivoire raised tariff rates on public sector services (e.g., energy and transport) in an effort to reduce the losses of public enterprises. But unless efficiency was improved at the same time, as was apparently the case in Chile, the distributive effect of these measures is likely to have been regressive. The distributive effect of the reductions in food subsidies is more complex to evaluate, since it depends on supply and demand elasticities and on subsidy leakages to the non-poor. For example, in Morocco only 16 percent of food subsidy expenditures reached the poorest 30 percent of the population (Mateus, 1983). A reduction in food subsidies could actually reduce inequality in some cases when accompanied by decontrol of food and other prices. By improving the incentives for food production, such policies can boost rural incomes, which are generally lower than urban incomes, thereby reducing inequality.[22]

The centerpiece of the structural adjustment programs was a sharp devaluation of the exchange rate, which was intended to reduce the macroeconomic imbalance resulting from the large current account deficits and to move resources toward tradables. With the exception of Côte d'Ivoire, the countries in our sample managed to effect a real devaluation of the exchange rate and thereby to change production incentives toward tradables (see Table 2 below).[23]

The other main components of the adjustment package in countries that received IMF-World Bank support were structural reforms that aimed at deregulating internal markets and foreign trade. Price controls were removed to a large extent in Ecuador, Morocco, and Côte d'Ivoire. Trade liberalization measures, including the removal of export taxes on traditional exports, reduction or outright abolishment of quantitative import restrictions, and a reduction in the level of protection,

were a particularly important component of adjustment in the economies with the most distorted system of incentives: Côte d'Ivoire, Ecuador, Morocco, and Indonesia. No structural reform measures were needed in Chile, which had carried out structural adjustment reforms during the second half of the 1970s, or in Malaysia, which was already open to foreign trade. Rationalization of the fiscal system also figured prominently in the Moroccan and Indonesian reforms. Besides introducing a value added tax, fiscal reform was directed at broadening the tax base by reducing the number of exemptions and narrowing the tax rates to reduce incentives to avoid taxes or to arbitrage across tax categories.[24]

To get a sense of the representativeness of our sample, we compared the evolution of key macro indicators by subperiod for each country with corresponding averages for appropriate subsamples from a large sample of over eighty other developing countries (Table 2): primary exporters (Côte d'Ivoire and Morocco), manufacturing exporters (Chile and Malaysia), and fuel exporters (Ecuador, Indonesia).[25] The indicators as GDP growth; the investment share in GDP, a measure of the sustainability of adjustment; the real exchange rate, here a measure of competitiveness; and external debt indicators. Period averages are supposed to be representative of the immediate pre-crisis (1978-81) and post-crisis (1982-85) periods and of the end of the adjustment period (1986-88), except for fuel exporters which had a second shock in 1986. While the period averages do not always correspond to the significant episodes for the six countries in our sample, the period averages do correspond broadly to the periods when the main external environment changes of the 1980s occurred.

The stylized facts that emerge from the period averages for the country groupings are broadly consistent with the analytical discussion in section 2. Three facts stand out. One is that only manufacturing exporters have resumed growth at pre-crisis levels (mostly the East Asian countries). Although the debt-service burden of this group is high (partly because of a few Latin American

countries in the grouping), it has stabilized. Growth among the fuel exporters has deteriorated throughout the three periods. Primary exporters have recuperated most of their loss in growth, but they have not arrested the deterioration in their external debt indicators. These differences in growth patterns are consistent with the timing and size of shocks and with the greater ease of adjustment for manufacturing exporters because of their more flexible economic structures.

The second significant fact is the universal, and pronounced, decline in the investment share in GDP. For the non-fuel-exporting groups, the share has fallen by about 20 percent; for fuel exporters, the decline was an even sharper 30 percent. While it is true that overambitious investment programs needed to be scaled down, these declines are high enough to cause concern about the prospects for sustained recovery. They also suggest the difficulty of cutting current expenditure during a crisis.

The third significant finding is the sharp real depreciation of the exchange rate. Six years into the crisis, the real exchange had depreciated by close to 40 percent for all three country classifications. Without it, the required shift toward tradable activities needed to increase the net transfer from debtor to creditor would not have materialized.

Compared to the averages for their corresponding groups, the countries in this study were doing better than average in the pre-crisis period but -- except for Morocco -- were harder hit by the crisis, experiencing relatively larger declines in growth rates during 1982-85. Recovery, however, was also stronger in our small sample of countries. Except for Côte d'Ivoire and Morocco, which have high end-of-period debt indicators, the countries in our sample were showing stronger than average signs of sustained recovery, although adjustment is far from over for two in our sample of six countries.

Table 2. Macroeconomic indicators during adjustment: A comparison with other countries, period averages for 1978-81, 1982-85, and 1986-88

Country\GNP per capita	GDP growth			Investment/GDP			Real exchange rate[a]			Debt/GDP (debt-service ratio, %)		
	1978-81	1982-85	1986-88	1978-81	1982-85	1986-88	1978-81	1982-85	1986-88	1978-81	1982-85	1986-88
Côte d'Ivoire ($1,180)[b]	3.9	0.2	0.5	28.0	16.8	12.9	1.05	1.23	1.10	0.47 (24)	1.01 (40)	1.14 (44)
Morocco ($930)	2.3	3.9	3.9	23.7	22.2	20.3	1.00	1.15	1.25	0.50 (35)	0.93 (38)	1.10 (36)
Primary exporters (45 countries)	2.8	1.4	2.4	21.4	18.4	17.2	1.03	1.13	1.39	0.35 (15)	0.53 (20)	0.61 (29)
Chile ($2,100)	7.5	-1.5	6.3	19.8	12.1	16.2	1.01	1.12	1.61	0.37 (46)	0.83 (51)	0.93 (29)
Malaysia ($1,690)	7.6	4.8	4.6	30.3	34.1	25.7	0.95	0.86	1.01	0.23 (8)	0.49 (15)	0.65 (18)
Manufacturing exporters (23 countries)	4.8	2.4	4.9	26.2	23.5	21.8	1.03	1.12	1.39	0.21	0.35	0.40
Ecuador ($1,260)	5.2	1.7	2.0	25.8	19.6	21.8	0.96	0.91	1.43	0.38 (35)	0.57 (40)	0.81 (33)
Indonesia ($470)	7.3	2.9	4.0	26.1	27.2	24.1	0.92	1.00	1.52	0.26 (18)	0.30 (20)	0.58 (36)
Fuel exporters (15 countries)	6.6	2.0	0.9	27.9	24.9	19.4	1.0	0.95	1.35	0.34 (18)	0.44 (25)	0.63 (39)

Note: All data are unweighted period averages. For definition of country groupings see table 1. Sample of 83 countries with population exceeding 1 million in 1980.

a. The real exchange rate index is the ratio (expressed in common currency units) of a weighted sum of trading partners' wholesale price indexes over the domestic consumer price index (1980 = 1.00). An increase in the value of the index indicates a depreciation (increased competitiveness).

b. In 1980 U.S. dollars.

Source: For comparator figures, Faini and de Melo (1990).

4. DISTRIBUTIONAL OUTCOMES OF ADJUSTMENT: A SYNTHESIS

What were the distributional consequences of adjustment in the six countries in our sample? We have already seen that, while the countries shared common targets during adjustment -- closing the expenditure-income gap that had developed before and during the crisis -- initial conditions and characteristics were different. There are many ways in which we could compare results for our sample countries. We could compare the experience of Indonesia and Malaysia, the only two countries that adjusted without recourse to IMF and World Bank stabilization and structural adjustment loans. Or we could synthesize the distributional experience of our sample by examining successively how each country performed in terms of distributional indicators: wages, primary incomes, poverty, and income distribution. What we have chosen to do, however, is to rely on three pairwise comparisons: Chile and Malaysia, classified as manufacturing exporters because of the relatively larger share of their industrial sectors and the role of manufactured exports and the two most open economies at the time of the crisis; Côte d'Ivoire and Morocco, primary product exporters already on the edge of crisis even before the debt crisis (Morocco had several failed stabilization experiences before embarking on adjustment programs); and Ecuador and Indonesia, the two oil exporters.

Chile and Malaysia. The two economies are clearly the most outward oriented in the sample and are certainly among the developing countries with the least government intervention in goods and factor markets. They experienced the least prolonged shocks, and much of their need to adjust was self-generated. As described by Meller and by Demery and Demery in their country studies, both countries followed policies that led to a sharp real appreciation of the exchange rate. In Chile, the appreciation occurred because the government used the exchange rate to bring down inflation while the capital market was open. Inflows of short-term private capital fueled a private expenditure surge

that was accompanied by appreciation of the real exchange rate. In Malaysia, a classic primary commodity boom in 1979 was naturally followed by real exchange rate appreciation. But when the terms of trade moved against them, with a resulting 7 percent loss in the purchasing power of income in 1981 and another 4 percent loss in 1982, the exchange rate was not allowed to depreciate as was required. What both economies needed to do was to bring expenditure in line with income: in Chile, because foreign capital inflows were no longer available to finance private sector consumption expenditures, and in Malaysia, because fiscal expansion was no longer consistent with the new terms of trade. Unlike while the other countries in our sample, Chile and Malaysia did not require structural adjustment policies.

Of course, matters were somewhat more complicated than that. Chileans had incurred large dollar-denominated debts when they were cheap compared to peso-denominated loans. Then, as Meller points out, when the recession and devaluation threw the financial system into chaos (with bad loans accounting for 350 percent of commercial bank equity), the government subsidized holders of dollar liabilities through debt-dedollarization and preferential exchange rates. As Meller eloquently puts it: "While 600,000 unemployed workers were receiving 1.5 percent of GDP as unemployment subsidy, fewer than 2,000 dollar debtors were receiving subsidies totaling 3 percent of GDP." Although slightly different from the often-mentioned "Latin American capital flight" syndrome -- since the increased indebtedness was the result of a consumption boom (mostly of imported consumer durables) -- the Chilean crisis shows clearly that macroeconomic disequilibrium has the potential to adversely affect the distribution of income.

The role of flexibility, which was emphasized in the discussion of adjustment in Figure 2, is also highlighted by the contrasting experience of Chile and Malaysia. In Chile, adjustmeat occurred through the labor market, with a sharp increase in unemployment exacerbated by widespread wage indexation -- effective unemployment reached 31 percent at the peak of the crisis.[26] Thus, whereas

Malaysia adjusted by staying on, or close to, its production possibility frontier, Chile adjusted by moving inside it (see figure 2). During the first of the two post-crisis periods (1982-5) shown in table 2, Chile is the only economy with negative growth. What were the distributional consequences of this type of adjustment?

Household surveys show that it was essentially the heads of households of the lowest income quintile that bore the brunt of unemployment: in that group, 25 percent were unemployed, compared to 9 percent in the lower-middle-income quintile and 2 percent in the highest-income quintile. Also, unemployment hurt the lower-income groups the most because they had fewer income earners per family. While household surveys were not available for the other counties, so we cannot draw comparisons, it is unlikely that this pattern of adjustment would have been observed in other countries where the crisis mostly led to underemployment among the poor in the informal sector.

Another interesting piece of evidence from the Chilean adjustment episode is the impact of the real exchange rate depreciation on the purchasing power of real incomes. As pointed out in figure 4, if households have consumption patterns that differ in their tradable goods intensity, a depreciation of the real exchange rate will have a redistributive effect through the consumption side. The evidence (see Meller, table 6) suggests that this effect was quite significant because of the large change in the value of the real exchange rate during adjustment: the middle 40 percent income group lost about 4 percent less real income through the real exchange rate devaluation than the lower 40 percent income group.

In contrast, Malaysia adjusted with very little secondary adjustment costs during 1984-87 -- private consumption fell by 8.4 percent in real terms and investment by about one third. But there were two fundamental differences in initial conditions compared to Chile: Malaysia's investment rate was much higher and its initial indebtedness was less (see Table 2). Both factors undoubtedly helped the Malaysian government to secure external funding at a time when other developing countries were

being denied access to foreign financing. Malaysia adjusted more through expenditure switching than through expenditure reduction.

Adjustment was not accompanied by any significant distributional shifts in Malaysia. In fact, even though progress in reducing inequality -- a hallmark of Malaysian policy since it launched its "growth with redistribution" strategy in 1971 -- stopped temporarily, social expenditures grew in real terms during adjustment. In sum, because Malaysia entered into adjustment from an economy that had been growing rapidly, it was relatively easy to reduce expenditures and even though investment had to be cut, high investment levels by international standards were maintained during adjustment.

Another interesting comparison between the two countries relates to issues of political economy and the sustainability of adjustment. Chile was able to continue much of its difficult expenditure reduction through to the end in large part because of the political situation resulting from the military dictatorship. Malaysia, was able to carryout a sustainable adjustment program under a democracy without social unrest, probably because equity considerations had been a prominent social welfare concern for over a decade. This said, it should also be noted that Chile, despite a worsening income distribution, managed a very successful targeted program of assistance during adjustment that undeniably helped the very poorest. Also, infant mortality continued to fall during adjustment, reaching one of the lowest levels (8 per 1,000) among middle-income countries.

Côte d'Ivoire and Morocco. During the 1970s, Côte d'Ivoire and Morocco, like many other exporters of primary commodities, experienced a short-lived commodity boom that they treated as though it were permanent. In Côte d'Ivoire, the receipts of the commodity stabilization fund went up tenfold with the coffee and cocoa boom. These funds, which were supposed to be put aside for coffee and cocoa producers during periods of low prices, were spent on infrastructure construction projects -- projected with long gestation lags and no prospects for earning foreign exchange earnings. In Morocco, they used the windfall revenue gains from the tripling of the phosphate price in 1974 to

finance a large public investment program, to raise government salaries, and to provide food subsidies. When commodity prices slumped in 1976 and 1977, both countries resorted to foreign borrowing. Not surprisingly, both countries had higher than average debt burden indicators in the period before the crisis (see 1977-81 period averages in Table 2) and a level of indebtedness that left them with little room to maneuver when the debt crisis occurred in 1981-82.

External crisis struck both countries earlier than the other countries in our sample. Morocco also postponed adjustment longer than any other country. Special circumstances accounted for this postponement. Thanks to continued access to external borrowing, especially from Saudi Arabia, Morocco was able to postpone adjustment.[27] Côte d'Ivoire, as a member of the CFA zone, had access to the French treasury for external funds. Indeed, the relative indebtedness (vis-a-vis group averages) of both countries increased throughout the adjustment period.[28]

In contrast to Chile and Malaysia, Côte d'Ivoire and Morocco had relatively interventionist policies -- price controls, high and dispersed tariff structures complemented by quantitative restrictions -- and relatively weak fiscal administrations. In terms of Figure 2, both economies were inside their respective production possibility frontiers and in need of microeconomic structural adjustment measures. Côte d'Ivoire implemented such measures in the adjustment programs of 1981-83 and 1984-86 (see the article in this issue by Lambert, Schneider, and Suwa, Table 2 for a description); in Morocco, in 1983-85 (see Morrisson, Table 1 for a description). Measures in both countries were aimed at closing the fiscal expenditure-receipt gap and improving the efficiency of resource allocation by rationalizing domestic and foreign trade tax structures and by removing price controls and quantitative restrictions on imports. Morocco also relaxed interest rate controls and tried to induce the repatriation of workers' remittances from abroad by providing preferential interest rates.

Morocco is the only country in the sample whose growth rate rose during adjustment, while Côte d'Ivoire is the only one that showed no sign of improvement until the end. Two factors account

for this difference in performance despite relatively similar adjustment packages. First, the weather favored Morocco (good rainfalls in 1985 and 1986) and plagued Côte d'Ivoire (drought in 1983). How important were weather conditions? For Morocco, the agricultural sector benefitted greatly from the exceptionally good rainfalls of 1985-86, although liberalization of agricultural markets also helped and the devaluation stimulated a growth in export crops. During those two years, agriculture is estimated to have contributed about half of the increase in economic growth. The growth in agricultural export crops raised the income of farmers since the supply increases were not generally accompanied by a fall in real prices. Morrisson (see article in this issue) concludes that primary incomes in agriculture fared well, and that this helped reduce income inequality between rural and urban incomes. For Côte d'Ivoire, simulations suggest that the drought reduced GDP growth by more than 8 percent after 1983, at the same time increasing the agricultural terms of trade by more than 10 percent.

Second, Côte d'Ivoire had less room to maneuver because it could not explicitly use the exchange rate as a switching device. Indeed, by the end of the period, the amount of expenditure switching through real exchange rate devaluation was lower in Côte d'Ivoire than in any other country in the sample (see Table 2 and comparator figures). Furthermore, because of its weak administrative capability, Côte d'Ivoire failed in its efforts to reduce the deficit via tax increases and to compensate for an inability to devalue its currency through an equivalent commercial policy of uniform tariffs and export subsidies.

In both Morocco and Côte d'Ivoire, the brunt of adjustment was borne by city dwellers. The combination of reforms and favorable weather in Morocco helped reduce rural unemployment, but in the towns, employment did not grow fast enough to absorb new entrants in the labor force, and urban unemployment rose 3 percentage points, reaching 15 percent, despite a respectable 3.8 percent a year growth in employment. At the same time, because the supply of skilled labor was growing much

faster than demand (due largely to education policies of the previous decade), there was a sharp drop in the real wage of skilled labor. These factors, together with the removal of quantitative restrictions whose quota rents had gone to wealthier Moroccans, helped to reduce income inequality.

Much the same pattern developed in Côte d'Ivoire with the brunt of adjustment falling on urban workers who lost their jobs in the private and parastatal sectors. If one assumes that the unemployed urban workers received some support from those that kept their jobs, then the per capita incomes or urban workers fell the most. On the other hand, government employees (the better-off socioeconomic group) managed to retain their jobs although their real wages fell. In rural areas, the little evidence available from household surveys suggests an increase in per capita expenditures for non-food items. Lambert, Schneider, and Suwa also suggest that the increase in food prices relative to nonagricultural products must have helped sustain rural income levels.

Thus both countries managed to reduce the rural-urban income gap during adjustment, largely by improving agricultural incentives. Adjustment measures contributed in two ways: devaluation of the real exchange rate, which stimulated agricultural exports, a particularly significant effect in Morocco, and liberalization of agricultural markets -- reduction of price controls on food, reduction of taxation of agricultural exports, the abolishment of public monopolies in fertilizers and agricultural exports in Morocco, and the commercialization of rice in Côte d'Ivoire.[29]

Unfortunately, these positive effects of adjustment on supply and on the rural-urban primary income gap were not matched by trends in social expenditures, especially in Côte d'Ivoire, which had to rely heavily on cuts in public expenditures. In Côte d'Ivoire, per capita expenditures on education fell, and primary school enrollment grew slower than primary school population. Not only social expenditures, but transfers to the poor were cut as well, including subsidies on items that constituted a significant proportion of the consumption of the poor, such as rice, electricity, water. Morocco also

cut education expenditures, but the effects were alleviated by rising school enrollments. And Morocco maintained its food subsidies.

Ecuador and Indonesia. Ecuador and Indonesia are more a study in contrasts than in similarities since they have little in common in their adjustment experience except the need to adjust to a fall in oil revenues. Indonesia carried out its adjustment program without asking for support from international institutions, suggesting strong internal political support for adjustment.[30] Like Malaysia, Indonesia also benefitted from a relatively light debt burden when the crisis occurred (see Table 2), due largely to the constitutional requirement for a balanced budget. Its continued access to foreign financing helped cushion the adjustment. Investment in Indonesia was also considerably stronger than the average for fuel exporters. By contrast, Ecuador had recourse to support from the international organizations and in a broad sense did not "own" its adjustment program, and so had difficulty getting the support needed to carry out its structural reforms. Nor did Ecuador have access to external financing when it was most needed. These problems notwithstanding, both Ecuador and Indonesia did much better than other fuel exporters (Table 2), resuming growth in the last period and cutting back less on investment expenditures.

Indonesia not only achieved stabilization but also carried out structural reforms that helped to increase credibility of its adjustment program. In particular, financial sector reforms leading to convertibility of the rupiah inspired confidence in the expenditure-switching and-reducing measures that were being implemented concurrently. Much like Malaysia, Indonesia began its adjustment from a position of high growth and high investment. What is remarkable is that while Indonesia was undergoing structural adjustments that reduced its dependence on exports of nonrenewable resources for foreign exchange earnings and government revenues and improved the efficiency of resource allocation and investments (see the article by Thorbecke in this issue), the country was also reducing poverty and undernutrition. Data from household surveys suggest a much lower incidence of poverty

in 1987 than in 1984 in both rural and urban areas, with the proportion of the population below the poverty line falling from 33 percent in 1984 to slightly over 20 percent in 1987. But the impact of favorable initial conditions must not be overlooked. Thorbecke points out that several measures already underway in the pre-adjustment period helped Indonesia maintain the momentum of its poverty alleviation policies during the adjustment period -- investment in rural infrastructure, the fertilizer subsidy, and other measures that contributed to the rice boom and the process of agricultural adjustment. It also appears that these improvements did not come at the expense of capital expenditures in social services in the first years of the adjustment program, although beginning in 1986, capital expenditures (construction of schools, hospitals, clinics and dispensaries) were cut drastically.

In Ecuador, implementation of the stabilization and adjustment program was hampered by the strongly divergent interests of agroexporters on the coast and government bureaucrats in the capital.[31] These conflicts led to half-hearted implementation of difficult measures to reduce the fiscal imbalance and weakened the credibility of the adjustment program. Despite initial successes in 1984 and 1985, the austerity measures could not be maintained in 1986, when the price of oil fell again. To sustain the faltering alliance between economic elites and lower-class urban groups, the government turned to populism and regionalism, compromising its austerity measures with a large public works program. An earthquake hit the country in March 1987, damaging an oil pipeline and reducing oil output by about one-third. With no external funding available, it should come as no surprise that there was little internal support for the adjustment measures and that capital flight was extensive.

Although not much information is available on distributional trends in Ecuador, there is little doubt that poverty increased substantially; it is likely as well that income distribution worsened towards the end of the adjustment period since capital flight benefitted the upper classes. During

1981-85, as part of its fiscal austerity measures, the government had to sharply reduce education and health benefits. The share of value-added accruing to labor fell by over 8 percent per year during 1980-86. The decline in living standards was particularly acute in urban areas: unemployment (and underemployment) for Quito was estimated at over 20 percent for 1987, and the real wage was 53 percent lower in 1989 than in 1980. Industrial employment had to fall once adjustment became inevitable because previous rapid employment growth in the sector had been fueled by high levels of protection.[32]

Since data on household incomes were unavailable for Ecuador, de Janvry, Sadoulet and Fargeix estimated household-specific income equations that allowed them to predict changes in real per capita incomes. They conclude that the boom period had a progressive effect on income distribution in agriculture and a neutral effect in the urban sector and that the crisis had a regressive effect in both sectors. They also concluded that the educated urban population lost the most in per capita terms during adjustment (about two-thirds during 1980-87). These estimates, however, do not take into account the potential gains from asset protection through capital flight.

5. LESSONS FROM THE COUNTERFACTUAL SIMULATIONS

In this section, we draw lessons from the model-based exercises in three areas: completing the picture where information is lacking, especially on the magnitude of real income loss in the informal sector; estimating the relative effects of alternative adjustment policies on poverty; and assessing the sustainability of various adjustment packages.

(a) Completing the picture

Except for Indonesia and Malaysia, for which we have detailed household surveys that cover the period of adjustment, we have no systematic evidence of the likely trends in poverty and income distribution during the adjustment period. A main advantage of the simulation models is that they provide a comprehensive period-by-period account of the evolution of household incomes that allows for inferences about the likely evolution of income distribution and poverty indicators during adjustment.[33] In addition, the simulations are useful for examining the importance of shocks and of the timing of adjustment measures. We highlight a few results.

In Côte d'Ivoire, the 1983 drought occurred in the middle of adjustment. How important was the resulting shortfall in agricultural supply, and by how much did it increase poverty? Lambert, Schneider, and Suwa simulated the economywide effects of the drought and found that it expanded the number of people in poverty by more than 15 percent. They also examined the benefits of migration back to rural areas during the crisis for those in the informal sector.

Governments tend to postpone adjustment until it can no longer be avoided. What are the effects of such delays? For Malaysia -- the country with the most successful adjustment program -- Demery and Demery show that an earlier adjustment would have smoothed the intertemporal distribution of income, which would have increased welfare if households were risk-averse. They also find that earlier adjustment would have led to a slight decrease in the number of people in poverty, although the intensity of poverty would have been slightly higher. By contrast, Morrisson finds that in Morocco, substantial gains would have occurred from a policy of early adjustment, which would have reduced the size of the transfers needed to stabilize the income of the poor.[34]

(b) Package design and poverty

How well did the adjustment packages achieve their goals of efficiency and equity? To address this issue, most authors simulated the effects of alternative policies for reducing the fiscal income-revenue gap (government wage freeze, tax increase, or a different mix of reductions in current and capital expenditures), to see whether these alternative policies would have significantly altered the outcome in terms of growth, income distribution, and poverty. We summarize the main findings.

In Morocco and Côte d'Ivoire, the need to cut the fiscal deficit was imperative, and they tried to do so primarily by reducing real government salaries and the growth of public sector employment. Côte d'Ivoire tried to reduce nominal salaries in 1990, but soon abandoned the attempt. So the question for Morocco is whether this measure was better than alternative measures to reduce global demand. Morrisson shows that the worst solution would have been to lay off public employees, since that creates unemployment, reduces growth, and increases poverty. It turns out that a wage cut is the only measure that reduces inequality because public sector employees are in the middle- and upper-income deciles. The same outcome is also found for Côte d'Ivoire. However, Lambert, Schneider and Suwa are careful to point out that the model-generated results do not recognize spillover effects that would dampen the magnitude of estimated poverty reduction (civil servants probably send a part of their earnings to relatives living in rural areas, who are likely to be poor). While Morrisson shows that no other alternative expenditure-reduction package considered is more favorable on distributional grounds than the reduction in civil servant wages, he finds that cutting operating expenditures has a slightly better effect on poverty. Unlike a reduction in public sector wages, a cut in operating expenditures does not lead to a fall in demand for informal sector goods and so, indirectly, to a fall in

the incomes of those engaged in the informal sector. Morrisson therefore concludes that the Moroccan government chose the right policies.[35]

An examination of the outcomes of a real exchange rate devaluation to switch expenditures and generate a supply-augmenting reallocation of resources also provides some interesting lessons. Interpreting the results from this simulation is tricky, however. In most simulations, a devaluation of the exchange rate usually alters the country's net external indebtedness, which implies that one needs to take into account the effect of a devaluation on the economy's external debt position.

For all countries, a devaluation provides short-term benefits by stimulating exports and by avoiding the more recessionary impact of the alternative policy of cutting public expenditures.[36] In the long run however, results differ across countries. In Ecuador, the higher inflation generated by the devaluation is assumed to directly reduce investment because of the increased uncertainty. Growth is lower as well, and other policies have a better effect on income distribution and poverty in the long run. In Indonesia, accelerated devaluation results in an acceleration of inflation and in capital flight, but no loss of growth and mixed effects on income distribution since all income groups, except large and medium-size farmers, lose. In Morocco devaluation turns out to be the preferred instrument in terms of social criteria, in the short run, in part because the drop in informal sector incomes resulting from the fall in real wages in the modern sector is compensated for by increased spending on informal sector goods by farmers and agricultural workers, whose real incomes rise because of the devaluation. Morrisson points out, however, that a policy of successive devaluations would quickly meet with resistance by modern sector wage earners. Furthermore, devaluation induces a fall in investment because of higher real interest rates. Devaluation also loses its appeal in Morocco in the longer run because of lower growth.

Côte d'Ivoire is the only country in our sample that would benefit from a devaluation both in the short run and in the long run. Ironically, it is also the only country that cannot use this option

because it belongs to the CFA franc zone. This favorable outcome is due mostly to the devaluation's growth-inducing effect as unemployment falls with higher export growth and external debt is reduced because of the improvement in the trade balance. The treasury also benefits from the boost in revenues from the export stabilization fund (even with the levy rate remaining constant).[37] Poverty falls because unemployment is lower, and income distribution improves. Income inequality is reduced because of the increase in the cost of living for urban households, for whom imports constitute a large share of consumption, and the higher demand for the output of the informal sector.

Not surprisingly, most studies found that devaluation alone, without a cut in expenditure, would not have been sufficient to restore macroeconomic equilibrium, even when it was found to have short-run expansionary effects. The same conclusion was pointed out by the analytical discussion in section 2, which suggested the need for joint monetary and fiscal policies to contain or reduce aggregate demand. Indeed, while most authors considered the effects of devaluation in isolation in their simulations, when they judged the adequacy of measures adopted, they considered policy packages in which devaluation was only one of several components. It is nonetheless interesting to contrast the diversity of results from a policy of devaluati. . In general, a relatively robust conclusion from these comparisons is that devaluation tends to reduce poverty in rural areas if small farmers produce export crops and to reduce inequality because the real incomes of the rural poor and the urban poor in the informal sector fare better than those of the modern sector workers. (The incomes of the poor in the urban informal sector are relatively less affected by the devaluation because informal sector demand does not fall much as a result of a devaluation.[38])

In Indonesia and Malaysia where adjustment was by and large successful, the issue of policy design concerned mainly whether the authorities used sufficient fiscal restraint or the proper mix of expenditure reduction and whether increasing taxation would have been preferable. For both countries, the authors find that the alternative packages would not have performed better than the

measures actually adopted. A larger cut in expenditures is deflationary, which is not desirable even though it improves the country's external debt position. For Indonesia, where highly disaggregated data on government expenditures is available, Thorbecke concludes that a shift in the mix of government spending toward public investment projects might have been marginally better since the rural and urban poor would benefit while the rural and urban rich would lose marginally from such a shift.[39] In Malaysia, a more austere fiscal adjustment package is also found to be less desirable than the course actually pursued. Demery and Demery also find that a policy of reducing the deficit by raising commodity and corporate taxes would be regressive, since it leads to a drop in household incomes and consumption and a rise in the incidence of poverty, a result Morrisson also finds for increased commodity taxes in Morocco.

Morrisson finds for Morocco that a more efficient adjustment outcome could have been achieved through a public works program that created employment at low wages for the young and unskilled, financed through a cut in government wages. While the logic and benefits of such a program are clear and substantial, such a policy would probably have been difficult to implement because of resistance from public servants.

A final issue examined is the effect of stabilization policies on the distribution of income through portfolio shifts and asset revaluation, a point also stressed in the paper in this issue by Bourguignon, de Melo, and Suwa on modeling the effects of adjustment. In the Ecuador study, macroeconomic disequilibrium that leads to inflation and lower investment also leads to capital flight, a form of asset protection available only to the rich. With capital flight comes the need for a larger real exchange rate devaluation, which means a lower real wage and more poverty. These undesirable distributional consequences, a reflection of a lack of credibility in the adjustment package, have been emphasized in several discussions of the adjustment experience in Latin America (see, for example,

Diaz-Alejandro 1985). Thus counterfactual simulations are helpful in illustrating the distributional consequence of poorly designed stabilization policies.

(c) Sustainable packages

All too often, it is forgotten that stabilization and adjustment measures fail because they do not take into account the resistance of those whose standard of living will fall as a result of the measures. Among our sample countries, lack of support for stabilization and structural adjustment policies that would benefit agroexporters was particularly evident in Ecuador, especially after the 1988 presidential elections, when the incumbent, representing the interests of agroexporters, was ousted by the candidate representing a coalition of urban interests. Drawing on the simulations reported by de Janvry, Sadoulet and Fargeix, we illustrate how counterfactual simulations can help in selecting which policy among available alternatives is likely to meet the least political resistance.

Two characteristics of the Ecuadorian experience are typical of the problems facing many countries during adjustment. First, efficient adjustment implied a resource shift toward agriculture, which evidence on adjustment in several countries in our sample corroborates (Morocco, Indonesia, Chile). Prima facie evidence suggests that such an adjustment pattern is favorable to the interests of agricultural landowners at the expense of urban interests -- unless there are compensating measures such as food subsidies. Second, adjustment took place under a fledgling democratic regime with weak institutions and tenuous political support, a combination that implies heightened uncertainty about the outcome of difficult measures and an interplay of political interests and pressure groups. In this context, then, the issue is which adjustment packages that are desirable on economic efficiency grounds are also attractive in terms of their effects on the distribution of income. In other words,

what adjustment packages are sustainable politically, that is, which packages will not engender coalitions that can bring a halt to adjustment or a reversal in policies?

The simulations with the Ecuador model show the most efficient package in the long run to be one of fiscal austerity achieved through reductions in current expenditures. Packages that do not involve fiscal restraint generate inflation, which eventually crowds out private investment. However, the problem with this adjustment package, which reduces rural poverty, is that it also reduces the welfare of all urban groups and is therefore not politically feasible. An adjustment package that protects the poor and involves no loss in real income during the adjustment requires a transfer equal to 3.5 percent of GDP (for Morocco, the corresponding estimate is 1.5 percent of GDP). Not surprisingly, de Janvry, Sadoulet, and Fargeix show that the only politically feasible option is an adjustment package with a foreign aid component because the next best alternative -- taxing the rich -- would require too large a tax intake from the non-poor to be politically feasible.[40]

In the absence of foreign aid, what are the supporting policies that can make a fiscal austerity program sustainable politically? Public campaigns of information and persuasion can help. Also, structural reforms that increase the elasticity of supply (by raising the elasticity of substitution between capital and labor) both increase growth while reducing the distributional shift required to effect the resource transfer also improve political sustainability (see Table 7 de Janvry, Sadoulet, and Fargeix in this issue). This is, of course, the aim of microeconomic reforms in structural adjustment packages: to raise the efficiency of resource allocation while minimizing distributional shifts (recall the comparison in Figure 3 between rigid and flexible economies). Policies that shift public investment toward the agroexport sector are also beneficial because such investment boosts growth in that sector, thereby reducing rural poverty, and indirectly improve conditions of the urban poor, who have access to cheaper imports since less real exchange rate depreciation is needed. Interestingly, de Janvry, Sadoulet, and Fargeix point out that the Ecuadorian government that represented the interests

of agroexporters failed to pursue such a course -- the share of government expenditures directed to agriculture continued to fall after the election of Cordero.

The simulations for Ecuador, however, also point out how little room governments have to maneuver when they must undertake wide-ranging adjustment packages, a fact that is known intuitively by those who have to implement the measures but often overlooked in academic discussions of the social costs of adjustment. What is lacking is an economywide political-economy framework that clearly highlights the point that distributional shifts are an unavoidable component of adjustment packages and that a reduction in fiscal expenditures (when there is no access to foreign funds to cushion the impact) is likely to be unfeasible if economic policies are open to interest-group lobbying.

The other country studies did not address the issue of sustainability as explicitly as the Ecuador study, although the authors usually alluded to the political consequences of alternative adjustment packages. For example, in comparing the outcomes of the various counterfactual scenarios with the adjustment package adopted by the Indonesian government (the base run), Thorbecke concluded that the adjustment package selected by the government was consistent with most objectives (laid out by the government). In particular, it sheltered the incomes of the civil servants in both the short and long run more than each alternative counterfactual simulation except one that called for an even greater level of government current expenditures than in the base run scenario. A scenario that emphasizes public investment more than in the base run yields the most favorable policy outcomes in the long run in terms of higher GDP growth, lower inflation, and higher incomes for most agricultural household groups, but these advantages have to be weighed against significantly lower standards of living for urban and rural higher-income groups. Given the political power of civil servants, Thorbecke concludes that this cost could not be borne by the government.

6. CONCLUSIONS

How the poor fared during the structural adjustment programs of the 1980s has been -- and continues to be -- the subject of debate. Some argue that the poor suffered a great deal and that their fate depended on adjustment. Others argue that the decline in living standards was not so severe or pervasive, and that the fate of the poor would have been much worse had adjustment measures not been taken. The purpose of the OECD project was to bring evidence to the debate by addressing two key issues: What happened to the poor, and what might have happened to them with adjustment packages other than those adopted?

We started with an analytical discussion stressing that adjustment involved, among other things, the need to cope with an adverse external shock involving a permanent loss in the income of the poor. Under those circumstances, the marginal value of income to the poor rises, justifying an income transfer to the poor. However, because the initial conditions characterizing many economies on the eve of adjustment implied that they were operating well within their production frontier, the possibility existed of improving the situation of the poor by successfully undertaking growth-augmenting structural reforms. We concluded that, ultimately, the issue remains an empirical matter that can be resolved only by recourse to careful analysis of countries that carried out adjustment programs. Because of the enormous difficulty of identifying the poor and of attributing changes in their well-being to policies or states of nature, the OECD project relied on case studies, complemented by counterfactual simulation analysis.

An interesting feature of the six country studies in this symposium is their diversity. Two of the countries, Indonesia and Malaysia, managed to adjust without any apparent adverse impact on the poor, despite some cuts in social expenditures in Indonesia. This superior performance on the distributional front was attributed to a number of factors, including relatively favorable initial

conditions, early adjustment, good and credible policies, and continued access to external finance to smooth adjustment. Not surprisingly, the exploration of alternative adjustment packages for these two countries revealed only potentially negligible improvements on the distributional front.

In Chile and Ecuador, unsustainable macro policies prior to adjustment (Chile) or during adjustment (Ecuador) contributed to a worsening distribution of income despite otherwise sound structural adjustment policies. The experience of these two countries underscores the importance of adopting credible policies, since reversals benefit some segments of society at the expense of others. In Ecuador, capital flight was distributionally regressive and in Chile, subsidies to holders of dollar debt resulted in a significant redistribution of income from the rest of society to the beneficiaries of the preferential exchange rate for dollar liabilities.

Finally, for Côte d'Ivoire and Morocco, urban poverty increased during adjustment while improvement seems to have occurred in the distribution of income as the rural-urban income gap was reduced either mostly as a result of measures adopted (Morocco) or mostly as a result of exogenous events (Côte d'Ivoire). Simulations showed that, for these two countries, alternative adjustment packages would likely have yielded superior outcomes, particularly true for Côte d'Ivoire, where large imbalances remained.

The centerpiece of virtually all adjustment programs was a sharp devaluation in real terms. This devaluation, which was part of the expenditure-switching policies that had to be carried out to reduce the external deficit, was also part of the structural adjustment policies aimed at improving resource allocation and moving the economies closer to their production frontier. The evidence from the various simulation exercises suggests that this policy instrument was beneficial since in the short run it avoided the recessionary impact of adjustment through fiscal expenditure cutting. The simulations also indicated that this policy usually had favorable short-run effects on the distribution of income. When the longer-run effects of devaluation including inflation and higher real interest rates,

were taken into account however, the results were more diverse. For some cases, devaluation remained superior to the alternative of contractionary monetary and fiscal policies, while for others, the contrary was true. Interestingly, the analysis of alternative adjustment instruments for Côte d'Ivoire pointed out to the superiority of devaluation, an option not available to that country. These conflicting results point to the need for caution in interpreting the results of individual studies, since authors were often forced to rely on mechanisms operating during adjustment whose validity cannot be directly tested, or transferred to another setting.

The comparative studies also show that distributional conflicts can arise during adjustment. Among those, the most prevalent is the conflict between agriculture and labor-intensive sectors in manufacturing on the one hand, and the bureaucratic and import-substituting sectors on the other. In general, agriculture was found to be sheltered during adjustment and to have benefitted from the liberalization measures and real exchange rate devaluation that accompanied adjustment programs. Because of this conflict of interests, adjustment programs must be carefully managed, especially in economies with large bureaucracies and import-substituting sectors. This suggests that efficiency criteria may have to accommodate distributional concerns to avoid excessive distributional conflicts.

All too often, it is forgotten that packages fail because they do not take into account the resistance of politically powerful groups to measures that reduce their standard of living. In Ecuador, this resistance was at the base of a change in administration during adjustment. Simulations suggest that packages that are most efficient in the long run are not feasible politically because they involve too great a deterioration in the welfare of the political elite in urban areas. In those cases, timely foreign aid can make the difference at relatively low cost to the donor because of synergistic effects through the induced growth effects of foreign aid. At the same time, insofar as structural reforms do indeed improve the flexibility of the economy, foreign aid can make a difference by making adjustment packages that are desirable on economic grounds more feasible politically.

The discipline imposed by general equilibrium modeling also shows the narrow room for maneuvering when the three criteria of efficiency, welfare, and political feasibility are taken into account. In this setting, all actions have opportunity costs beyond those that would be revealed by a narrowly focused economic cost-benefit calculus. This exposes the potentially fatal flaws of narrowly designed adjustment programs, be they efficiency-focused or welfare-focused. By the same token, because the margin for maneuver is so small, unanticipated adverse shocks can be devastating for an ongoing adjustment program. Under those circumstances, foreign assistance loans are crucial for managing this tenuous balance, with foreign grants necessary when the size of the shock is very large. Nonetheless, despite these difficulties, the case studies in this symposium show that adjustment programs can be successful.

In the same vein, the research points out to a great diversity of impacts of adjustment programs. Sharply different distributional outcomes can occur with identical adjustment packages when institutional characteristics differ widely. Sharply different distributional outcomes can also emerge as a result of changes in the mix between current and capital expenditure cuts. This diversity suggests the need for careful package design -- "passe partout" adjustment programs will not do. Tailoring adjustment programs to take into account the economic and political environment is essential for equity and for the sustainability of the program itself. Moreover, the case studies in this symposium show that there is no inherent conflict between fiscal retrenchment, which implies a smaller state, and the balancing of the objectives of efficiency, welfare, and political feasibility, which implies an active state.

The debate on the impact of adjustment on the poor is far from being settled. Yet it is likely that, as our analysis of income distribution and poverty during adjustment expands and as reliable household-level data become available, our understanding will increase. We hope that the studies in

this symposium shed new light on the debate and point at least a thin beam of light towards some of the areas where our ignorance is greatest.

NOTES

1. Until the crisis of the 1980s, the economywide approach to income distribution analysis relied heavily on the long-run objectives treated in the influential work of Chenery, Robinson, and Syrquin (1987).

2. Cornia, Jolly, and Stewart (1987) advocate a combination of expansionary macro policies and targeted micro policies designed to increase equity and efficiency. In an IMF study, Heller et al. (1988) suggest a descriptive approach that relies on a classification of the poor by meaningful socioeconomic groups so as to be able to speculate on how the poor fared during adjustment.

3. The country studies in this symposium are syntheses of longer, single-volume country studies published by the OECD. For a fuller discussion of each country's experience, the reader is referred to the volumes referenced in the foreword to this symposium.

4. This section draws on Bourguignon (1991).

5. As discussed below, for economies inside their production possibility frontier, adjustment may not conflict with poverty alleviation, if adjustment also entails moving closer to the frontier, as would occur, for example, with effective structural reforms that improve resource allocation.

6. This analysis neglects the political-economy reasons that make redistributive policies difficult to implement (e.g., interest group coalitions that oppose the policies). This issue is discussed in further detail in section 5 below.

7. One could, of course, redistribute current income at B_2. This would lead to position B_2' above B_2 (not shown in the figure). The evidence suggests that in economies with well-functioning tax and administrative systems (e.g. the Nordic European countries), substantial current income transfers can be sustained at low distortionary costs. In developing countries, by and large, static and dynamic costs of current income transfers are likely to be large.

8. Evaluating the outcome of a capital transfer strategy is likely to be even more complex as it involves carrying out a cost-benefit analysis of investment in human capital of the poor. Since the poor are not assumed to receive any current income under this strategy, both the poor and non-poor lose from this strategy in period 1, and the economy moves to C_1. As depicted here, the asset transfer strategy which leads to C_2, dominates the current transfer strategy, but is shown to be less productive than investment in the rest of the economy because C_1 and C_2 lie on ISO-lines below A_1 and A_2. However, once all considerations are taken into account, including the difficulty of measuring the economic efficiency benefits resulting from less social conflict, it is likely that if the capital transfer strategy is well implemented, the economy could move to C_2', and the equity-efficiency conflict suggested by a capital transfer would then disappear.

9. For example, the framework outlined in figure 1 would be useful for analyzing the tradeoffs involved in Malaysia's New Economic Policy (NEP) of 1975.

10. To simplify the graphical exposition, we have assumed that both economies face the same initial real exchange rate, e_o^r. This is unlikely to be so in practice, though it could occur as a result of a combination of product and factor market distortions. As drawn here, we have also assumed that nontradables are a luxury good. This, of course, need not be the case.

11. To measure the primary and secondary costs of adjustment would require drawing budget lines with slope e_o^r through F and C_p^o. Measured in terms of tradables, the primary (secondary) costs would be measured by the distance on the vertical axis between the intersection of the relevant budget lines with the vertical axis and the budget line through p_p^o. For more discussion, see Corden (1988).

12. Labor real income will fall (rise) relative to traded (nontraded) goods prices. This distributional result was first developed in Jones (1971).

13. For an empirical support on the Stolper-Samuelson relationship between factor intensities and the factoral distribution of income for a group of developing countries, see Bourguignon and Morrisson (1989, chapter 2). In particular, they find statistical support for the hypothesis that openness to foreign trade shifts the factoral terms of trade toward labor. This is the case illustrated in figures 3 and 4.

14. For a more complete discussion of the properties of this model, known as the dependent-economy model, see for example, Dornbusch (1980).

15. In terms of the models used in the country studies, the elasticity of substitution between domestic- and foreign-produced goods is low, so there is little scope for import substitution in response to a real exchange rate depreciation.

16. The easiest way to visualize this is to consider the model in its dual from, as in Mussa (1978).

17. Resistance to cuts in real wages would tend to rotate the factor-price frontier counterclockwise while resistance to cuts in profits would rotate it clockwise. However, one cannot ascertain a priori how the factor price frontier will behave because it would depend on the exact origin of the price rigidity. Furthermore, in practice, it remains an open question which group will have the upper-hand when both engage in resistance to cuts in living standards. The structuralist literature addresses this issue at length (see, e.g., Taylor 1987).

18. See Table 6 in Meller's discussion in section 4 below.

19. For a full description of the model, see the article by Bourguignon, de Melo, and Suwa in this issue.

20. Given Indonesia's strong performance during adjustment (see table 2), it is unlikely that it had rigid demand and supply structures. Or, if that was the case prior to adjustment, structural reforms were successful in eliminating bottlenecks. Chile would also fall in that category if it were not for the major reforms of the late 1970s, which transformed if into an economy with no institutional rigidities except for wage indexation in the formal sector, which was abandoned in 1982 in the depth of the crisis.

21. Chile, in spite of falling copper prices, also had a period of euphoria when it benefited from large capital inflows in 1980-81.

22. In Côte d'Ivoire and Morocco, the amount of food marketed by the poor is quite small, so this effect is not likely to be very significant.

23. Because of the fixed exchange rate, increased competitiveness was achieved by the involuntary appreciation of the dollar and by the voluntary depreciation of the French franc against other EMS currencies in 1981, 1982 and 1983, and, later in the adjustment, by the combination of a tariff surcharge and export subsidies. In Côte d'Ivoire, little increase in competitiveness was achieved indirectly.

24. For an assessment of recent tax reforms, including those for Indonesia and Morocco, see Thirsk (1990).

25. Definitions of country groupings are given in table 1. A fairly similar pattern of results obtains with groupings defined by income levels. Note, however, that all the data in table 2 are from the World Bank. While internally consistent to the extent possible, the period averages in table 2 might deviate slightly from those that would be obtained from the data in the country studies.

26. See the article by Meller in this issue (table 4) for a decomposition of the primary and secondary costs of adjustment in terms of tradable and nontradable sectors. It should be noted that Chile had widespread wage indexation in the formal labor market which contributed to inflexibility.

27. In fact, Morocco tried to stabilize attempts in 1978 and 1980, but government attempts to cut food subsidies, led to riots and to the abandonment of the measures. See the article by Morrisson in this issue for further discussion.

28. Both countries are among a group of 18 highly indebted countries.

29. In terms of figure 2, these supply-augmenting structural reforms moved both countries closer to their respective production possibility frontiers.

30. Eventually Indonesia received adjustment loans from the World Bank (starting in 1987, but by then, most adjustment measures had already been adopted.

31. With the election of Cordero in 1984, political power shifted back toward the traditional elite, agroexporters and bankers

32. Industrial employment fell at an average annual rate of 2 percent during 1981-85. See the article by de Janvry, Sadoulet, and Fargeix in this issue (table 2). They note that fiscal also austerity reduced employment opportunities for skilled and unskilled labor.

33. It is particularly encouraging that the base run of the Malaysia model tracked very closely the observed changes in the distribution of income during adjustment. See the article by Demery and Demery in this issue (section 6).

34. Morrisson simulates earlier adjustment with a package that includes a freeze on the minimum wage. While such a policy is likely to be more acceptable when applied early on, it would still probably meet with resistance.

35. Considering that a similar policy had to be abandoned when it was applied in Côte d'Ivoire in 1990, and in light of the discussion below on the political sustainability of adjustment packages, one cannot but help but wonder whether this policy could be implemented in a less authoritarian regime than Morocco's.

36. We do not report on the devaluation experiments for Malaysia since devaluation is also accompanied by less fiscal restraint. It turns out that this package has a slightly negative effect on the balance of payments, probably because devaluation is accompanied by a less restrictive fiscal policy. The package also results in slightly higher growth than in the base run.

37. It is interesting to contrast this outcome with the more direct alternative of raising export taxes. Lambert, Schneider and Suwa show that raising export taxes generates significant indirect effects, which dampen the initial fiscal improvement.

38. The controversy on the effects of devaluation on output (and even more so on income distribution) is far from settled. For a recent survey of the theoretical debate see Lizondo and Montiel (1989). For empirical results, see Edwards (1989). It should therefore not be surprising that country studies find different results.

39. In the Ecuadorian case, adjustment through a cut in current expenditures is also found to be preferable to that through a cut in capital expenditures on distributional and efficiency grounds. This is because a cut in capital expenditures reduces the real incomes of unskilled workers whereas a cut in current expenditures results in a cut in living standards for skilled workers. See the article in this issue by de Janvry, Sadoulet, and Fargeix (figure 1).

40. Interestingly, the simulations show that the amount of foreign aid required is only about two-thirds of the required transfer because of the growth-inducing effects of foreign aid (see de Janvry, Sadoulet, and Fargeix (section 5b). This result, which implies that timely aid can make the difference between a sustainable adjustment package and one that fails, is often overlooked. In the Ecuadorian case, timely debt relief did not follow the earthquake in March 1987.

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